

REMARKS/ARGUMENTS

- Amendments -

Applicant respectfully requests that the pending claims be amended as indicated in the accompanying amended page(s), in which:

- Claim 1 is amended to address the §112, second paragraph, rejection.

Claims 1 - 5 remain pending. Applicant submits that no new matter has been added by these amendments.

- Remarks -

Introductory Remarks

In the instant Office Action, the Examiner states:

"... it would have been obvious to modify Silverbrook's printhead assembly to provide power from two ends of the printhead assembly to the printhead integrated circuits as disclosed by McElfresh et al. The motivation for doing so would have been to provide power in parallel from both ends of the printhead assembly to the printhead integrated circuits as taught by McElfresh et al."

Applicant notes that such motivation still does not suggest why the conductors provided from both ends of the printhead assembly would be connected to each other intermediate the ends of the assembly. McElfresh et al. clearly show that the power conductors are not connected to each other at all.

The connector 124 and serial cable 122 of Silverbrook et al. are connected to each other for the reason that the supply of data is provided only at one end. That is, the fact that the supply of data is provided only at one end necessitates connector 124 being connected to serial cable 122. Applicant submits that if the supply of data were provided from both ends, connector 124 would not be connected to serial cable 122. It fact, this would be necessary in order to preserve the integrity of the data signals coming from each supply.

35 USC §102(b)/§103(a)

Independent claim 1 remains rejected under §103(a) over the combination of Silverbrook et al. (US 6,612,240) in view of McElfresh et al. (US 6,843,552).

In rejecting claim 1, the Examiner contends that elements 124 and 122 of Silverbrook et al. correspond to the plurality of electrical conductors recited in claim 1. Elements 74 and 74' of McElfresh et al. are interpreted as corresponding to the first and second groups of electrical conductors connected to the first and second power supplies. The Examiner asserts that a combination of the above two alleged teachings of Silverbrook et al. and McElfresh et al. would result in the arrangement recited in claim 1.

Applicant respectfully disagrees with the Examiner's above rejection.

Claim 1 requires:

- A plurality of electrical conductors separated into first and second groups.
- The first group being connected to a first power supply, and the second group being connected to a second power supply.
- The first and second power supplies being provided at opposite ends of the printhead assembly.
- The first and second groups of electrical conductors being connected to each other in between the opposite ends of the printhead assembly.

Applicant submits that the combination of Silverbrook et al. and McElfresh fails to teach or suggest the above arrangement of claim 1, for the following reasons.

Silverbrook et al. describe a one way supply of data from connector 124 (Fig. 14) to serial cable 122. It is noted that the right-most connector (not numbered) is not shown as connected to anything else. However, even if it were assumed that the right-most connector were connected to a further PCB, it remains the fact that a flow of data/electrical signal is from a supply to the left of Fig. 14 towards one or more PCB's to the right of Fig. 14. Silverbrook et al. do not describe a flow of data coming from both ends of the assembly and meeting in the middle thereof. From the Examiner's explanations in the instant Office Action, Applicant believes that the Examiner recognizes this fact, but provides the above summary of Silverbrook et al. for introductory purposes.

McElfresh et al. describe conductive paths 74 and 74' which originate from opposite ends of the electrical circuit 62'. It is noted, however, that conductive paths 74 and 74' do not connect to each other in the centre thereof. In fact, conductive paths 74 and 74' do not connect to each other at all. Applicant notes, in fact, that if one were to extend either of conductors 74/74' of McElfresh et al. so as to connect to each other, a short circuit would be likely to occur.

The cited references hence suggest only that:

- If two sets of conductors are connected to two separate supplies, the two sets of conductors are not connected to each other (McElfresh et al.)
- If two sets of conductors are connected to each other, then they are connected to the same supply (Silverbrook et al.)

The cited references do not teach or suggest that two sets of conductors each connected to a separate supply can be connected to each other, nor why or what motivation would exist for doing so. Applicant hence submits that claim 1 is novel and inventive over the cited combination of Silverbrook et al. and McElfresh et al.

Applicant further makes the following submissions:

- Any proposed modification of McElfresh et al. so as to result in a device in which the two conductors 74 and 74' are connected to each other (whether in a middle of the device, or otherwise) would likely result in a short circuit and render the device of McElfresh unsatisfactory for its intended purpose. Such a modification is hence improper (MPEP 2143.01 V).
- Applicant notes that the connector 124 and serial cable 122 of Silverbrook et al. are described as for facilitating communication between the PCB's 108 and 110 (see col. 5, lines 34 - 36), and not for the transferring of power. In this regard, Applicant submits that the arrangement of data lines cannot render obvious the claimed arrangement of power lines, as the requirements, purposes and limitations of power lines are distinct from those of data lines.

- Moreover, since connector 124 and serial cable 122 of Silverbrook et al. are data lines, it would not be obvious to one of ordinary skill in the art to connect such lines to two separate supplies and to join the lines together. Applicant submits that joining together two data lines originating from separate sources would result in the corruption of the data in both lines.
- Therefore, any proposed modification of Silverbrook et al. so as to connect the connector 124 and serial cable 122 to two separate supplies at opposite ends of the assembly, and still remain connected to each other in the middle, would render the invention of Silverbrook et al. unsatisfactory for its intended purpose, and again improper (MPEP 2143.01 V).

In summary, Applicant respectfully submits that the combination of Silverbrook et al. and McElfresh et al. does not render obvious the invention of claim 1. A modification of McElfresh et al. in view of Silverbrook et al., or conversely, a modification of Silverbrook et al. in view of McElfresh et al., would result in a device that is unsatisfactory for its intended purpose. As a result, Applicant submits that there exist no motivation or suggestion to modify the references in this manner, as supported by MPEP 2143.01 V.

Other Amendments

Claim 1 is amended to address the §112, second paragraph, rejection.

Favorable reconsideration of the application in light of the above amendments and remarks is respectfully requested. Applicant looks forward to word of further official communication in due course.

Very respectfully,

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